

10 CFR 50.82(a)(4)(i)

September 23, 2014

U. S. Nuclear Regulatory Commission ATTN: Document Control Desk Washington D.C. 20555-0001

Subject:

Docket Nos. 50-361 and 50-362,

San Onofre Nuclear Generating Station, Units 2 and 3

Irradiated Fuel Management Plan

Reference

Letter from P.T. Dietrich (SCE) to the U.S. Nuclear Regulatory Commission, dated June 12, 2013; Subject: Certification of Permanent Cessation of Power

Operations, San Onofre Nuclear Generating Station, Units 2 and 3

### Dear Sir or Madam:

On June 12, 2013, SCE submitted the referenced letter to the U.S. Nuclear Regulatory Commission (NRC) certifying the permanent cessation of operations at San Onofre Nuclear Generating Station (SONGS), Units 2 and 3, in accordance with 10 CFR 50.54(bb) and 10 CFR 50.82(a)(4)(i), Southern California Edison (SCE) is required to submit an Irradiated Fuel Management Plan (IFMP), Site Specific Decommissioning Cost Estimate (DCE) and Post-Shutdown Decommissioning Activities Report (PSDAR) within two years of permanent cessation of operations.

The SONGS, Units 2 and 3 IFMP is attached. The DCE and PSDAR are being concurrently submitted under separate cover letters. The IFMP represents SCE's current plans and is subject to change as the project progresses. In particular, the Independent Spent Fuel Storage Installation location, and storage equipment and vendor(s) have not been selected. The decision making and procurement activities are underway but have not been finalized.

Changes to significant details will be included in subsequent revisions to the IFMP as required by 10 CFR 50.54(bb). Financial assurance information will be provided on an annual basis as required by 10 CFR 50.75(f)(1).

This letter does not contain any new commitments.

If there are any questions or if additional information is needed, please contact me or Ms. Andrea Sterdis at (949) 368-9985.

Sincerely,

They ph

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A001 KIRR Enclosure: San Onofre Nuclear Generating Station Units 2 and 3 Irradiated Fuel Management

Plan

cc: M. L. Dapas, Regional Administrator, NRC Region IV

- T. J. Wengert, NRC Project Manager, SONGS, Units 2 and 3
- T. J, Warnick, NRC Project Manager, San Onofre Units 2 and 3 Decommissioning
- R. E. Lantz, NRC Region IV, San Onofre Units 2 and 3
- S. Y. Hsu, California Department of Health Services, Radiologic Health Branch

### I. Background and Introduction

On June 12, 2013, Southern California Edison (SCE) submitted a letter to the U.S. Nuclear Regulatory Commission (NRC) (Reference 1) certifying the permanent cessation of operations at San Onofre Nuclear Generating Station (SONGS) Units 2 and 3 effective June 7, 2013, in accordance with 10 CFR 50.82(a)(1)(i). All fuel was removed from the SONGS Units 2 and 3 reactor vessels and placed in their respective spent fuel pools as certified in accordance with 10 CFR 50.82(a)(1)(ii) (References 2 and 3).

Pursuant to 10 CFR 50.54(bb), licensees are required to submit a plan for the management of irradiated fuel until title and possession of the fuel is transferred to the Secretary of Energy for its ultimate disposal in a repository. The Irradiated Fuel Management Plan (IFMP) is required to be submitted to the Commission either five years before expiration of the Operating License or within two years following permanent cessation of operations, whichever occurs first. Therefore, the SONGS Units 2 and 3 plans are required to be submitted prior to June 7, 2015, two years following the cessation of operations. This submittal constitutes SCE's IFMP for SONGS Units 2 and 3, submitted on behalf of itself and the other SONGS Participants responsible for the funding of the SONGS decommissioning. The other SONGS Participants are the City of Anaheim, the City of Riverside, and San Diego Gas & Electric Company (SDG&E).

EnergySolutions, LLC has prepared a site-specific decommissioning cost estimate (DCE) for SONGS Units 2 and 3 (Reference 15). The DCE identifies the details, schedules, and costs of spent fuel management activities associated with the IFMP, along with license termination and site restoration activities and costs. This DCE is being submitted concurrent with the Post-Shutdown Decommissioning Activities Report (PSDAR, Reference 4) and this plan. The assumptions regarding the United States Department of Energy (US DOE) acceptance of irradiated fuel is consistent with the EnergySolutions DCE and is based on testimony filed with the California Public Utility Commission (Reference 13). The SONGS Units 2 and 3 DCE and this IFMP are based on commencement of industry-wide acceptance of spent fuel by US DOE in 2024.

### II. Irradiated Fuel Management Strategy

The safe initial interim storage of SONGS Units 2 and 3 irradiated fuel will be "wet storage" in each unit's respective spent fuel pool. The spent fuel pools will be isolated from their normal support systems and those systems replaced by stand-alone cooling and filtration units (also termed a "spent fuel pool island"). Doing so facilitates earlier system abandonment and parallel decommissioning activities.

Subsequently, all irradiated fuel in the SONGS Units 2 and 3 spent fuel pools will be safely transferred to "dry storage" at the common Independent Spent Fuel Storage Installation (ISFSI) located on the SONGS site. Dry storage is also considered interim storage pending transfer to the US DOE.

A total of 1,726 irradiated fuel assemblies have been generated in SONGS Unit 2 and 1,734 irradiated fuel assemblies have been generated in SONGS Unit 3, for a total of 3,460 irradiated fuel assemblies. At present, 792 SONGS Units 2 and 3 irradiated fuel assemblies have already been transferred to the common ISFSI. The remaining 2,668 irradiated fuel assembles will be loaded into Dry Shielded Canisters (DSCs) and transferred to the ISFSI.

The current ISFSI is located inside the Owner Controlled Area. It was constructed to accommodate SONGS Unit 1 irradiated fuel and provides additional capacity for a limited amount of SONGS Units 2 and 3 irradiated fuel.

The ISFSI currently contains 18 DSCs storing Unit 1 fuel and Greater than Class C (GTCC) waste. The ISFSI also contains 33 DSCs which store Units 2 and 3 fuel. All of the fuel on the ISFSI is stored in Transnuclear NUHOMS Model Number-24PT1 or PT4 DSCs.

The major IFMP activity phases, including start and end dates and associated costs for each period are identified in Table 1. The identified Spent Nuclear Fuel (SNF) Periods are developed in and align with the site-specific DCE (Reference 15).

The current plans are to obtain necessary permits for the ISFSI to be expanded to accommodate the remaining inventory of the SONGS Units 2 and 3 spent fuel pools. SONGS plans to commence the movement of irradiated fuel from the Unit 2 and Unit 3 pools to the ISFSI in 2017. SONGS expects to complete the transfer in 2019. Additional DSCs will be procured from one or more of the available dry storage system suppliers beginning in 2014. An additional 47 DSCs will be required for the SONGS Unit 2 irradiated fuel and an additional 44 DSCs will be required for the SONGS Unit 3

irradiated fuel (depending on the capacity of the selected system and the number of DSCs needed to store GTCC waste and other materials). The spent fuel pool inventory is forecast to be transferred to the ISFSI no later than the end of 2019.

The US DOE Standard Contracts for acceptance and disposal of spent nuclear fuel and high level waste contain the basis for the initial ranking of industry-wide spent fuel acceptance obligations based upon the date of permanent removal of the spent nuclear fuel from service ("oldest fuel first" allocation). Those Standard Contracts also contain provisions allowing for "exchanges" of acceptance obligations, and priority for retired units. Given the US DOE's lack of performance, a common assumption for purposes of this fuel management plan is to base acceptance projections upon application of an "oldest fuel first" allocation scheme to a projected start date for repository operations. This plan is based upon a 2024 start date (Reference 13) for US DOE acceptance of spent fuel from the industry and the SONGS Units 2 and 3 positions in the queue. As indicated in Table 3, SCE is therefore assuming all fuel will be removed from the SONGS site as of 2049. Based on this assumption, the ISFSI will be subsequently decommissioned by the 2051 final license termination date.

### III. Financial Assurance

The regulations (10 CFR 50.54(bb)) also require that funding adequacy be demonstrated to support the irradiated fuel management plan.

The cost of twelve (12) additional DSCs to be stored on the current ISFSI was funded from sources other than the Nuclear Decommissioning Trusts (NDT) (Reference 5), as are the costs associated with ongoing storage of Unit 1 spent fuel at the GE-Hitachi Nuclear America LLC's Morris Operation ISFSI located in Morris, Illinois. Table 1 includes the costs of procurement and construction of the expanded ISFSI capacity and all loading costs. Operation of the spent fuel pools is modeled as being discontinued in 2019 after all of the fuel has been transferred to dry storage. ISFSI operations continue until the US DOE is able to complete the transfer of the SONGS fuel to a repository or interim storage facility, which is currently assumed to occur by 2049.

SONGS management is committed to providing consistent and up-to-date information to all of its stakeholders and regulators. Aspects of the SONGS Nuclear Decommissioning Trust Fund are regulated by both the California Public Utilities Commission (CPUC) and the NRC. Previous Decommissioning Cost Estimates (DCEs) were updated and submitted to the CPUC as part of the Nuclear Decommissioning Cost Triennial Proceedings (Reference 5). Financial assurance reports including the balances and expenditures for SONGS Unit 1 were supplied to the NRC (as required by 10 CFR

50.82(a)(8)(v)) annually (most recently in Reference 6) and balances for SONGS Units 2 and 3 were submitted on a biennial basis (as required by 10 CFR 50.75(f)(1)) (most recently in Reference 7). Reports regarding ISFSI costs and decommissioning funding assurance for these costs were summarized triennially as required by 10 CFR 72.30(c) (most recently in Reference 8). Going forward, balances and expenditures will be supplied annually to the NRC for all three units and the ISFSI.

An updated site-specific DCE will be concurrently submitted to the NRC. As summarized in Table 1, this plan is based on decommissioning and the termination of the license by 2051, approximately 38 years following the permanent cessation of operations. The summary in Table 1 includes the funds for dry storage through 2049 and final release of the ISFSI in 2051.

Tables 4A and 4B summarize the estimated annual spending for all decommissioning activities (License Termination, Spent Fuel Management, and Site Restoration), and combined NDT current balances in 2014 dollars. Table 2 reflects key tasks addressed by the NRC staff in a recent safety evaluation.

The total of all Nuclear Decommissioning Trust funds balances for SONGS Units 2 and 3 was \$3,926 million as of December 31, 2013 (Reference 9). Evaluation of the projected cash flows assuming earnings on existing balances as permitted by NRC regulations demonstrates the adequacy of the existing funds to cover all aspects of decommissioning, including the costs of irradiated fuel management. This demonstrates that the balance in the decommissioning trust is adequate to fund all aspects of decommissioning as well as the costs of irradiated fuel management. As decommissioning proceeds the DCE will be updated as appropriate and annual updates of spending and trust fund balances will be docketed as required.

### IV. Regulatory Activities

The IFMP assumes that the SONGS Participants will make withdrawals from their nuclear decommissioning trusts for spent fuel management purposes. The SONGS Participants have collected funds from ratepayers and accumulated funds in the nuclear decommissioning trusts for the purpose of funding three primary categories of costs: (1) License Termination; (2) Spent Fuel Management; and (3) Site Restoration. On November 18, 2013, SCE filed a Tier 3 Advice Letter (Reference 10) with the CPUC to obtain authorization for the use of funds in the near term and to establish processes for further CPUC oversight of withdrawals from the nuclear decommissioning trusts. On February 21, 2014, SDG&E filed a similar letter (Reference 14) with the CPUC. In addition to authorizing and overseeing the withdrawals, the CPUC is expected to

designate the specific amounts from the existing fund balances that are available for License Termination and therefore subject to 10 CFR 50.82(a)(8)(i)(A) and 10 CFR 50.75(h)(2). The fund balances would then be allocated to separate subaccounts within each trust fund and, as such, available for spent fuel management and site restoration, consistent with the requirements of 10 CFR 50.75, 10 CFR 50.82, and 10 CFR 72.30.

To confirm such access, SCE requested (Reference 11) an exemption from 10 CFR 50.75 and 50.82 to authorize the use of trust funds to pay for spent fuel management and site restoration including other transitional costs. The regulations limit the use of the nuclear trust fund to decommissioning costs. This exemption was granted on September 5, 2014 (Reference 12).

The SONGS Participants responsible for decommissioning will periodically review the amount of cash contributions required for the decommissioning fund to ensure that withdrawals do not inhibit the ability of the licensee to complete NRC License Termination, Spent Fuel Management, and Site Restoration. The SONGS Participants will obtain authorization as necessary through the ratemaking processes to provide for further contributions if required.

In accordance with 10 CFR 50.82(a)(8)(vii), SONGS will annually submit to the NRC by March 31<sup>st</sup> a report on the status of the funding for managing spent fuel. The report will include, current through the end of the previous calendar year, the amount of funds accumulated to cover the cost of managing the spent fuel, the projected cost of managing spent fuel until title to the fuel and possession of the fuel is transferred to the Secretary of Energy, and if the funds accumulated do not cover the projected cost, a plan to provide additional funding assurance using one of the methods allowed by NRC regulations.

### V. References

- Letter from P. Dietrich, Southern California Edison, to U.S. Nuclear Regulatory Commission, Subject: Dockets 50-361 and 50,362, Certification of Permanent Cessation of Power Operations, San Onofre Nuclear Generating Station Units 2 and 3, dated June 12, 2013
- Letter from P. Dietrich, Southern California Edison, to U.S. Nuclear Regulatory Commission, Subject: Dockets 50-361 Permanent Removal of Fuel from Reactor Vessel, San Onofre Nuclear Generating Station, Unit 2, dated July 22, 2013
- Letter from P. Dietrich, Southern California Edison, to U.S. Nuclear Regulatory Commission, Subject: Dockets 50-362 Permanent Removal of Fuel from Reactor Vessel, San Onofre Nuclear Generating Station, Unit 3, dated June 28, 2013
- 4. SONGS Units 2 and 3 Post-Shutdown Decommissioning Activities Report, San Onofre Nuclear Generating Station
- 5. Decommissioning Cost Estimate, 2013 Scenario, dated July 11, 2013, ABZ, Incorporated. Used in support of Nuclear Decommissioning Cost Triennial Proceeding, Exhibit SCE-12
- 6. Letter from Richard C. Brabec, Southern California Edison to U. S. Nuclear Regulatory Commission, Subject: 10 CFR 50.75(f)(1) and 10 CFR 50.82(a)(8)(v-vii) Decommissioning Funding Status Report San Onofre Nuclear Generating Station Unit 1 dated March 31, 2014
- 7. Letter from Richard C. Brabec, Southern California Edison to U. S. Nuclear Regulatory Commission, Subject: 10 CFR 50.75(f)(1) Decommissioning Funding Status Report, San Onofre Nuclear Generating Station Units 2 and 3 dated March 31, 2014
- 8. Letter from Douglas R. Bauder, Southern California Edison U. S. Nuclear Regulatory Commission, Subject: 10 CFR 72.30 ISFSI Decommissioning Funding Plan, San Onofre Nuclear Generating Station Units 1, 2 & 3 dated December 14, 2012
- 9. Letter from Richard C. Brabec, Southern California Edison to U.S. Nuclear Regulatory Commission, Subject: San Onofre Nuclear Generating Station, Units 2 and 3 Access to Nuclear Decommissioning Trust Funds, Supplemental Information, Dated March 12, 2014
- 10. Letter from Megan Scott-Kakures, Southern California Edison, to Public Utilities Commission of the State of California Energy Division Submitting a Tier 3 Advice Letter Requesting (1) Authorization of Disbursements from the Master Trusts for San Onofre Nuclear Generating Station; (2) Approval of Tier 2 Advice Letter to Process for Future Disbursements; (3) Designation of Trust Amounts Set Aside for License Termination; and (4) Approval of Balancing Account, dated November 18, 2013

- 11. Letter from Tom J. Palmisano, Southern California Edison, to U. S. Nuclear Regulatory Commission, Subject: San Onofre Nuclear Generating Station Units 2 and 3, Access to Nuclear Decommissioning Trust Funds, dated February 13, 2014
- 12. Letter from Thomas Wengert, Nuclear Regulatory Commission to Tom J. Palmisano, Southern California Edison, Granting Exemptions from the Requirements of 10 CFR 50, Sections 50.82(a)(8)(i)(A) and 50.75(h)(2) (TAC Nos. MF3544 an MF 3545) dated September 5, 2014
- 13. Testimony on Nuclear Decommissioning of SONGS 2 & 3 and Palo Verde, exhibit No. SCE-2, dated December 21, 2012
- 14. Letter from Clay Faber, San Diego Gas & Electric, to Public Utilities Commission of the State of California submitting a Tier 3 Advice Letter Requesting (1) Designation of SONGS 2&3 Costs Incurred During and After June 2013 As Decommissioning Costs Eligible for Payment with Trust Funds; (2) Authorization of Disbursements from the Master Trusts for San Onofre Nuclear Generating Station; (3) Approval of Tier 2 Advice Letter Process for Future Trust Disbursements; (4) Acknowledgement That Funds Have Been Collected From Ratepayers and Have Been Accumulating In The Trusts To Be Used for NRC and Non-NRC Jurisdictional Decommissioning Cost Categories; and (5) Designation of an Allocation of the SDG&E SONGS 2&3 Trusts Among the Major Decommissioning Cost Categories, dated February 21, 2014
- 15. EnergySolutions Document No. 164001, "2014 Decommissioning Cost Analysis of the San Onofre Nuclear Generating Station Units 2 and 3"

### Irradiated Fuel Management Plan - Summary Schedule

Table 1

		d Schedule S Oollars in tho	•				
Spent Fuel 10 CFR 50.54(bb)							
Period No.	Period Description	Start End	Years	Unit 2 Cost	Unit 3 Cost	Total Cost	
SNF Pd 1	Spent Fuel Management Transition	6/7/2013	12/31/2013	0.56	\$63,891	\$66,105	\$129,997
SNF Pd 2	Spent Fuel Transfer to Dry Storage	1/1/2014	6/1/2019	5.41	\$344,629	\$372,193	\$716,822
SNF Pd 3	Dry Storage During Decommissioning – Units 1, 2 and 3	6/1/2019	12/5/2031	12.51	\$61,425	\$61,425	\$122,849
SNF Pd 4	Dry Storage Only – Units 1, 2 and 3	12/5/2031	12/31/2035	4.07	\$29,383	\$29,383	\$58,765
SNF Pd 5	Dry Storage Only – Units 2 and 3	12/31/2035	12/31/2049	14.00	\$107,326	\$107,326	\$214,653
SNF D&D Pd 1	ISFSI License Termination	12/31/2049	5/6/2050	0.34	\$1,260	\$1,260	\$2,520
SNF D&D Pd 2	ISFSI Demolition	5/6/2050	9/8/2051	1.34	\$15,295	\$15,295	\$30,590
	Category Total			38.23	\$623,209	\$652,987	\$1,276,196

## Table 2 Major Fuel Management Tasks

Major Fuel Management Task Direct	Explanatory or Additional Details	Estimate	Schedule
Costs (Note 1)		in DCE (in Thousands)	in DCE
Estimated Costs to isolate spent fuel pools and fuel handling systems	<ul> <li>Estimated cost for Islanding</li> <li>No additional costs are required for fuel handling systems. Cranes are single-failure proof</li> </ul>	\$ 22,183 (Note 2)	6/2015
Estimated cost to construct an ISFSI or a combination of wet/dry storage	<ul> <li>ISFSI in operation; so, current costs are for wet/dry combination.</li> <li>Costs are associated with capacity expansion (pad and associated facility costs, DSCs and HSMs).</li> </ul>	\$ 396,391 (Note 3)	6/2019
Estimated annual cost for the operation of the selected option	Operational and maintenance costs are NOT readily separable (fuel storage support vice other demands); but, are included in Table 4 cash flows.	N/A	Ongoing
Estimated cost for preparation, packaging and shipping of fuel to DOE	Off-site transportation costs are part of contract with US DOE.	\$ 6,742 (Note 4)	Thru 12/2049
Estimated cost to decommission the ISFSI	Funded from both Unit 1 and     Units 2&3 Decommissioning Trust     Funds.	\$ 33,110 (Note 5)	2049- 2051
Brief discussion of selected storage method or methods and estimated time frame for these activities	<ul> <li>See Section II for selected methods.</li> <li>See Table 1 for time frames.</li> </ul>	N/A	N/A

### Notes:

- 1. Tasks from NRC Safety Evaluation (SE) on Kewaunee Integrated Fuel Management Plan dated, September 28, 2009, publically available under ADAMS Accession No. ML092321079
- 2. Cost based on DCE, DECON Pd 2, Items 2.23 through 2.30
- 3. Cost based on DCE, SNF Pd 2, Items 8.05 through 8.13
- 4. Cost based on SNF Pd 4 and SNF Pd 5, Item 2.03
- 5. Cost based on DCE, total of SNF D&D Pd 1 and SNF Pd 2

Table 3

## SONGS Unit 2 & Unit 3 Spent Fuel Shipping Schedule 2024 DOE Acceptance

	On Site Inventory (Reginning of the Veer)					On Site Transfers (Dusing		Off City Typesface (During Voca)			
	On-Site Inventory (Beginning of the Year)			On-Site Transfers (During Year)		Off-Site Transfers (During Year)					
	Unit 2 & 3		Unit 2 & 3	ar)							
1						11=:4.2.0.2	linia 3	Unit 3	11	11=14.2.0.2	
	Fuel	Fuel Assemblies	Fuel Assemblies	&3	Fuel Assemblies	Unit 2 & 3	Unit 2 Assemblies	Assemblies	Unit 2 & 3	Unit 2 & 3	
	Assemblies			Canisters		Canisters			Assemblies	Canisters	
,,	in Wet	in Dry	in On-Site	in	Transferred	Transferred	Transferred	Transferred	Transferred	Transferred	
Year	Storage	Storage	Storage	ISFSI	to ISFSI	to ISFSI	to DOE	to DOE	to DOE	to DOE	
2014	2668	792	3460	33	0	0	0	0	0	0	
2015	2668	792	3460	33	0	0	0	0	0	0	
2016	2668	792	3460	33	0	0	0	0	0	0	
2017	2668	792	3460	33	768	24	0	0	0	0	
2018	1900	1560	3460	57	1536	48	0	0	0	0	
2019	364	3096	3460	105	364	13	0	0	0	. 0	
2020	0	3460	3460	118	0	0	0	0	0	0	
2021	0	3460	3460	118	0	0	0	0	0	0	
2022	0	3460	3460	118	0	0	0	0	0	0	
2023	0	3460	3460	118	0	0	0	0	0	0	
2024	0	3460	3460	118	0	0	0	0	0	0	
2025	0	3460	3460	118	. 0	0	0	0	0	0	
2026	0	3460	3460	118	0	0	0	0	0	0	
2027	0	3460	3460	118	0	0	0	Ο.	0	0	
2028	0	3460	3460	118	0	0	0	0	0	0	
2029	0	3460	3460	118	0	0	0	0	0	0	
2030	0	3460	3460	118	0	0	48	48	96	4	
2031	0	3364	3364	114	0	0	192	96	288	12	
2032	0	3076	3076	102	0	0	120	120	240	10	
2033	0	2836	2836	92	0	0	0	96	96	4	
2034	0	2740	2740	88	0	0	112	120	232	8	
2035	0	2508	2508	80	0	0	96	96	192	6	
2036	0	2316	2316	74	0	0	128	96	224	7	
2037	0	2092	2092	67	0	0	0	0	0	0	
2038	0	2092	2092	67	0	0	96	128	224	7	
2039	0	1868	1868	60	· 0	0	96	96	192	6	
2040	0	1676	1676	54	0	0	96	96	192	6	
2041	0	1484	1484	48	0	0	0	0	0	0	
2042	0	1484	1484	48	0	0	96	96	192	6	
2043	0	1292	1292	42	0	0	96	96	192	6	
2044	0	1100	1100	36	0	0	96	96	192	6	
2045	0	908	908	30	0	0	128	96	224	7	
2046	0	684	684	23	0	0	96	128	224	7	
2047	0	460	460	16	0	0	96	230	326	11	
2048	0	134	134	5	o	0	0	0	0	0	
2049	0	134	134	5	0	0	134	0	134	5	
2050	О	О	О	0	0	О	0	О	0	0	

Note: The number of canisters listed are for storage of irradiated fuel not GTCC waste.

# Table 4A SONGS Unit 2 Decommissioning Funding Plan

	Radiological	Spent Fuel	Site	Total	Available
Year	Decontamination	Management	Restoration	Decommissioning Costs	Funds
2013	\$25,749	\$63,891	\$49,067	\$138,706	\$1,847,000
2014	\$79,799	\$35,719	\$15,089	\$130,607	
2015	\$69,196	\$106,308	\$7,439	\$182,943	
2016	\$54,541	\$59,308	\$3,730	\$117,579	
2017	\$111,903	\$59,308	\$1,957	\$173,168	
2018	\$47,520	\$59,308	\$0	\$106,828	
2019	\$108,328	\$27,554	\$13,539	\$149,420	
2020	\$185,482	\$4,908	\$36	\$190,426	
2021	\$79,081	\$4,908	\$36	\$84,026	
2022	\$54,785	\$4,908	\$1,927	\$61,621	
2023	\$158,207	\$4,908	\$36	\$163,151	
2024	\$37,930	\$4,908	\$16,848	\$59.687	
2025	\$2,922	\$4,908	\$44,621	\$52,451	
2026	\$2,922	\$4,908	\$19,412	\$27,243	
2027	\$2,922	\$4,908	\$22,469	\$30,299	
2028	\$2,922	\$4,908	\$31,688	\$39,518	
2029	\$2,922	\$4,908	\$66,873	\$74,704	
2030	\$2,922	\$4,908	\$71,867	\$79,697	
2031	\$2,055	\$5,089	\$23,181	\$30.325	
2032	\$2,122	\$7,214	\$0	\$9,336	
2033	\$0	\$7,214	\$0	\$7,214	
2034	\$0	\$7,214	\$0	\$7,214	
2035	\$0	\$7,228	\$0	\$7,228	
2036	\$0	\$7,665	\$0 .	\$7,665	
2037	\$0	\$7,665	\$0	\$7,665	
2038	\$0	\$7,665	\$0	\$7,665	
2039	\$0	\$7,665	\$0	\$7,665	
2040	\$0	\$7,665	\$0	\$7,665	
2041	\$0	\$7,665	\$0	\$7,665	
2042	\$0	\$7,665	\$0	\$7,665	
2043	\$0	\$7,665	\$0	\$7,665	
2044	\$0	\$7,665	\$0	\$7,665	
2045	\$0	\$7,665	\$0	\$7,665	
2046	\$0	\$7,665	\$0	\$7,665	
2047	\$0	\$7,665	\$0	\$7,665	
2048	\$0	\$7,665	\$0	\$7,665	
2049	\$0	\$7,667	\$0	\$7,667	
2050	\$0	\$9,974	\$20,177	\$30,151	
2051	\$0	\$6,573	\$11,928	\$18,500	
2052	\$0	\$0	\$1,377	\$1,377	

Notes: Costs are in 2014 dollars (in thousands) and are not escalated from the base year SONGS Unit 2 Trust fund balances at end of 2013 were \$1,847,000

## Table 4B SONGS Unit 3 Decommissioning Funding Plan

Year	Radiological Decontamination	Spent Fuel Management	Site Restoration	Total Decommissioning Costs	Available Funds
2013	\$26,566	\$66,105	\$49,067	\$141,739	\$2,079,400
2014	\$78,964	\$40,156	\$15,969	\$135,089	
2015	\$74,096	\$112,024	\$9,390	\$195,509	
2016	\$61,451	\$64,405	\$25,227	\$151,083	
2017	\$40,631	\$64,405	\$3,799	\$108,835	
2018	\$86,348	\$64,405	\$0	\$150,753	
2019	\$96,521	\$29,675	\$13,908	\$140.014	
2020	\$120,873	\$4,908	\$2,135	\$127,916	
2021	\$194,090	\$4,908	\$575	\$199,574	
2022	\$135,313	\$4,908	\$2,467	\$142,688	
2023	\$114,581	\$4,908	\$1,511	\$121,000	
2024	\$26,874	\$4,908	\$36,778	\$68,560	
2025	\$2,922	\$4,908	\$40,655	\$48,485	
2026	\$2,922	\$4,908	\$21,676	\$29,507	
2027	\$2,922	\$4,908	\$25,848	\$33,678	
2028	\$2,922	\$4,908	\$20,945	\$28,776	
2029	\$2,922	\$4,908	\$117,321	\$125,151	
2030	\$2,922	\$4,908	\$116,672	\$124,503	
2031	\$2,055	\$5,089	\$25,501	\$32,645	
2032	\$2,122	\$7,214	\$0	\$9,336	
2033	\$0	\$7,214	\$0	\$7,214	
2034	\$0	\$7,214	\$0	\$7,214	
2035	\$0	\$7,228	\$0	\$7,228	
2036	\$0	\$7,665	\$0	\$7,665	
2037	\$0	\$7,665	\$0	\$7,665	
2038	\$0	\$7,665	\$0	\$7,665	
2039	\$0	\$7,665	\$0	\$7,665	
2040	\$0	\$7,665	\$0	\$7,665	
2041	\$0	\$7,665	\$0	\$7,665	
2042	\$0	\$7,665	\$0	\$7,665	
2043	\$0	\$7,665	\$0	\$7,665	
2044	\$0	\$7,665	\$0	\$7,665	
2045	\$0	\$7,665	\$0	\$7,665	
2046	\$0	\$7,665	\$0	\$7,665	
2047	\$0	\$7,665	\$0	\$7,665	
2048	\$0	\$7,665	\$0	\$7,665	
2049	\$0	\$7,667	\$0	\$7,667	
2050	\$0	\$9,974	\$23,120	\$33,094	·
2051	\$0	\$6,573	\$45,566	\$52,139	
2052	\$0	\$0	\$1,377	\$1,377	

Notes: Costs are in 2014 dollars (in thousands) and are not escalated from the base year SONGS Unit 3 Trust Fund balances at end of 2013 were \$2,079,400